B2 NO: 6); nestin forward primer, 5'CAGCTGGCGCACCTCAAGATG3' (SEQ ID NO: 7); nestin reverse primer, 5'AGGGAAGTTGGGCTCAGGACTGG3' (SEQ ID NO: 8).--

Please replace the abstract with the following new abstract:

--The present invention relates to undifferentiated human embryonic stem cells, methods of cultivation and propagation, production of differentiated cells and in particular the production of human embryonic stem cells capable of yielding somatic differentiated cells *in vitro*, as well as committed progenitor cells capable of giving rise to mature somatic cells and B3 uses thereof. The present invention also provides a purified preparation of undifferentiated human embryonic stem cells capable of proliferation *in vitro*. Furthermore, the present invention provides a somatic cell differentiated *in vitro* from an undifferentiated embryonic stem cell. There is also provided a committed progenitor cell capable of giving rise to mature somatic cells.--

IN THE CLAIMS:

Please cancel claims 27 and 28 without prejudice.

Please amend the claims as follows:

19. (Amended) An *in vitro* method of inducing somatic differentiation of undifferentiated, pluripotent human embryonic stem cells, wherein said undifferentiated, pluripotent human embryonic stem cells are prepared by a process comprising: B4

obtaining an *in vitro* fertilised human embryo and growing said embryo to a blastocyst stage of development;

removing inner cells mass (ICM) cells from said embryo;

culturing said ICM cells under conditions which do not induce extraembryonic differentiation and cell death and promote proliferation of undifferentiated stem cells; and

recovering stem cells;

said method comprising growing said stem cells under culture conditions that induce somatic differentiation, wherein said conditions do not permit continued stem cell renewal but do not kill stem cells or induce their unidirectional differentiation into extraembryonic lineages.

20. (Amended) A method according to claim 19 wherein said culture conditions comprise prolonged cultivation of the undifferentiated stem cells on a differentiation inducing fibroblast feeder layer to induce a differentiated somatic lineage or multiple differentiated somatic lineages.

22. (Amended) A method according to claim 20 or 21 wherein said fibroblast feeder layer comprises embryonic fibroblasts.

23. (Amended) A method according to claim 20 or 21 wherein the fibroblasts are tested for their ability to promote embryonic stem cell growth and to limit extraembryonic differentiation.

24. (Amended) A method according to any one of claims 19, 20 or 21 wherein the fibroblasts are prepared and tested for their ability to allow somatic differentiation of embryonic stem cells.

25. (Amended) A method according to any one of claims 19, 20 or 21 wherein said culture conditions comprise cultivating the cells for prolonged periods and/or at high density in the presence of a differentiation inducing fibroblast feeder layer to induce somatic differentiation.

26. (Amended) A method for the isolation of committed progenitor cells from a culture of differentiated cells, said method comprising:

preparing a culture of differentiated cells according to any one of claims 19, 20 or 21; and

isolating committed progenitor cells from the culture.

Please add the following claims:

37. An *in vitro* method of inducing somatic differentiation of undifferentiated, pluripotent human embryonic stem cells, wherein said undifferentiated, pluripotent human embryonic stem cells are prepared by a process comprising:

obtaining an *in vitro* fertilised human embryo and growing the embryo to a blastocyst stage of development;

removing inner cell mass (ICM) cells from the embryo;

culturing ICM cells on a fibroblast feeder layer to obtain proliferation of undifferentiated stem cells; and

recovering the stem cells from the feeder layer;

said method comprising growing the stem cells under culture conditions that induce somatic differentiation, wherein said conditions do not permit continued stem cell renewal but do not kill stem cells or induce their unidirectional differentiation into extraembryonic lineages.

38. A method according to claim 37 wherein said culture conditions comprise prolonged cultivation of the undifferentiated stem cells on a differentiation inducing fibroblast feeder layer to induce a differentiated somatic lineage or multiple differentiated somatic lineages.

39. A method according to claim 38 wherein said differentiation inducing fibroblast feeder layer is at least one of a mouse fibroblast feeder layer or human fibroblast feeder layer.

40. A method according to claim 38 or 39 wherein said fibroblast feeder layer comprises embryonic fibroblasts.

41. A method according to claim 38 or 39 wherein the fibroblasts are tested for their ability to promote embryonic stem cell growth and to limit extraembryonic differentiation.

42. A method according to any one of claims 37, 38 or 39 wherein the embryonic fibroblasts are prepared and tested for their ability to allow somatic differentiation of embryonic stem cells.

43. A method according to any one of claims 37, 38 or 39 wherein said culture conditions comprise cultivating the cells for prolonged periods and/or at high density in the presence of a differentiation inducing fibroblast feeder layer to induce somatic differentiation.

44. A method for the isolation of committed progenitor cells from a culture of differentiated cells, said method comprising:

preparing a culture of differentiated cells according to any one of claims 37, 38 or 39; and

isolating committed progenitor cells from the culture.

45. A method of preventing and treating a congenital disease, said method including:

obtaining an *in vitro* fertilised human embryo and growing the embryo to a blastocyst stage of development;

removing inner cells mass (ICM) cells from the embryo;

culturing ICM cells under conditions which do not induce extraembryonic differentiation and cell death and promote proliferation of undifferentiated stem cells;

recovering stem cells; and

growing the recovered stem cells under culture conditions that induce somatic differentiation, wherein the somatic cells generated are capable of transplantation to a patient in need, wherein a genetic modification to the congenital disease has been introduced into the cells capable of transplantation, and wherein said culture conditions do not permit continued stem cell renewal but do not kill stem cells or induce their unidirectional differentiation into extraembryonic lineages.

46. A method of preventing and treating a congenital disease, said method comprising:

obtaining an *in vitro* fertilised human embryo and growing the embryo to a blastocyst stage of development;

removing inner cell mass (ICM) cells from the embryo;

culturing ICM cells on a fibroblast feeder layer to obtain proliferation of undifferentiated stem cells;